

ABSTRACT OF THE DISCLOSURE

Fluidic systems, including microfluidic systems, are used to manipulate light by light-fluid interaction so as to affect reflection, refraction, absorption, optical filtering, or scattering of the beam. One or more fluids may be provided to a channel or chamber and exposed to an incident beam, and the proportion of at least one of a plurality of fluids may be varied. Light may interact with a discrete fluid plug subject to movement within a channel. One or more flexible members may be employed, such as to provide a variable lens. Fluidic optical devices may be used in applications including optical switching, optical filtering, or optical processing. Multiplexed fluidic optical systems are further provided.